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ABSTRACT

This study constructs a typology of student value orientation (defined as student aspirations, attitudes, and values related to the college experience) as it relates to student satisfaction with college. Value orientation traits are used to identify direct effects on overall student satisfaction; trait variables examine the possibility that college activities could mediate the effects of value orientations on outcomes measurement. Data for the study were drawn from the Cooperative Institutional Research Program's 1994 Freshman Survey and its 1998 College Student Survey. The final sample consisted of 9,137 first-time, full-time students who attended 121 institutions in the United States and completed both surveys. Results of the study indicate that student value orientation does influence overall student satisfaction. At-risk (expect to drop out or transfer) or materialist (be well off financially) values lead to lower satisfaction levels, while an undecided (career aspiration) value orientation is associated with higher levels of overall satisfaction. Activist (participates in volunteer work), academic (expects to graduate), artist (create artistic work), and utilitarian (attending college to get better job) value orientations appear to have no significant impact on overall student satisfaction. (Contains 13 references.) (CH)

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Student Value Orientations About College:

Direct and Indirect Effects on Student Satisfaction

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HE 032 708

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ASHE *Association for the Study of Higher Education*

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held in San Antonio, Texas, November 18-21, 1999. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

There has been a movement in higher education to tailor educational programs, both inside and outside the classroom, to the specific student rather than assuming that the college experience affects all students in the same way. Special orientation sessions for transfer students, academic advisement programs catering specifically to underrepresented minorities, student activities and clubs targeting certain career aspirations (e.g., the undergraduate business society), and alternative schedules and distance learning to accommodate older students and working professionals are all working examples of these efforts. A focus on the personal relevancy of the higher education experience will become even more critical as the number of students enrolling in postsecondary institutions is expected to increase by an average rate of 1.2 percent per year between 1995 and 2007 (U.S. Department of Education, 1997). Additionally, the student population is also expected to get even more diverse with regard to race, ethnic and cultural background, age, and level of academic preparation. Arguably, the "student-driven" or "student-centered" approach makes intuitive sense and often administrators, faculty, and student-affairs professionals adopt practices that reflect this intent. However, empirical evidence justifying the need for individualizing instruction in this manner is hard to come by.

One of the limitations of the student development literature is that there has been relatively little research to test the assumption that college experiences catered to the students' individual needs lead to more positive outcomes. Previous researchers have investigated the role of individual traits and characteristics of the environment in an effort to predict student outcomes (Astin, 1993a, 1993b), to describe aspects of institutional culture (Clark and Trow, 1966), to explain patterns of persistence (Tinto, 1993), and with regard to choice of occupation (Holland, 1973). However, although person-environment interaction theories have attempted to describe the influence of environment and personal characteristics on behavior, there has been a dearth of

research investigating the interaction between personal traits and environmental forces and the subsequent effects on student behavior (Pascarella & Terenzini, 1991).

In order to undertake such a study it is first necessary to identify the relevant student characteristics that might interact with the treatment variables, and then to specify the treatments that are appropriate to interact with the students. The current study constructs a typology of student value orientations about college based upon numerous student characteristics, and includes many college activities and involvement measures to act as potential student "treatments."

Background of the Study

The effects of student values were selected as the focus of the current research because they represent the basis for student consciousness and behavior. Student values about college reveal why they are in college and define the role and purpose of higher education in the individual's life. Does the student view education as a means toward a better job? Do the college years represent a moratorium on adult life in which students are free to experiment and express themselves? Are these years in higher education institutions valued as a time to develop cognitively and emotionally? Indeed, do student values about college represent a combination of all of these factors or just one? The answers to these types of questions regarding the values a student holds about college are an important aspect of their identity, help define their purpose for attending school, and provide a framework to measure the relevancy of their whole experience with higher education.

Clark and Trow (1966) did an analysis of student orientations toward college as the "defining elements of student subcultures" (p. 19). They defined the values regarding education as "notions of what a college is and ought to be" (p. 26). Their research focuses on four types of student subcultures--collegiate, vocational, academic, and nonconformist--and the forces that

shape and sustain the values and social systems of these student subcultures. They found that characteristics of the college such as college purpose, institutional ethos, campus distinctiveness, student involvement, administrative/faculty authority structures, and size all influence these student values and subcultures. They assert that certain combinations of these forces foster the growth and maintenance of particular student subcultures while the presence of other environmental characteristics lead to the development of different student values and cultures.

Although the Clark and Trow's (1966) research alluded to the importance of interactions between the individuals and their environment, such interactions were not the primary focus of their work. Other theorists identify more specifically how personal characteristics interact with the environment to influence individual behavior. Some of these person-environment interaction theories seek to explain student satisfaction. For example, Stern (1970; Pace & Stern, 1958) developed the "needs-press" theory in which the psychological needs of the student interact with the "system of pressures, practices and policies" supported by the members of the college environment; this interplay in turn leads to different levels of satisfaction of the original student needs. Another interpretation of the exchange between environment and satisfaction defines satisfaction as minimal discrepancy between perceived and ideal self-image and performance, and explains the process of student satisfaction through a system of reciprocal relations between the self and the environment as well as interactions between the two (Pervin, 1968). In other words, if the environment is perceived as minimizing the distance between the ideal and actual self (as defined by the student), the student is more likely to feel satisfied (Pervin, 1968; Pascarella & Terenzini, 1991).

Notably, the person-environment interaction model most often used with regard to satisfaction stems from the arena of vocational choice rather than research on higher education. Holland's theory of vocational choice (1973) helps promote and explain occupational

satisfaction through the interaction of "personality type and environmental models" (p. 2). The theoretical model rests upon four assumptions: 1) people can be categorized as one of six different personality types; 2) occupational environments can also be categorized into six similar categories; 3) individuals want to be in environments that maximize their skills, abilities and potential; and 4) individual behavior is the result of the interaction between his or her personality type and the attributes of the environment. The theory is further bolstered by a secondary assumption regarding person/environment congruence (similar concepts discussed in Stern and Pervin's models), the ability to map an individual's personality profile using all six types, and a means of empirically measuring personality type through vocational preference and interest inventories. The theory concludes that satisfaction with one's vocation will most likely result if an individual is employed in an environmental model that best fits his/her personality type.

This analysis builds upon the assumptions and findings of these previous studies in many ways. First, it weds previous research on values with research on person-environment interaction theories and satisfaction. Specifically, this study uses a typology of student value orientations regarding college to explore the interplay between person and environment and the subsequent effects on satisfaction with this environment. This typology of student value orientations not only draws upon previous work on student subcultures, but also employs an empirical measure of value type, which underscores the import of this research as synthesizing heretofore disparate models. Second, this study incorporates student experiences, primarily student involvement measures, as environmental characteristics with the potential to interact with student values about college. Utilizing college activities in this manner expands the scope of this study to include an investigation of the effects of different choices within the same college environment in addition to looking at the differences between colleges. In this manner, it is possible to define the college environment/experience uniquely for each individual. Lastly, the

quantitative design of the current study advances the previous work on typologies and person-environment interactions. The design borrows heavily from a study performed by Astin (1993a) using a similar data set in which a factor analysis of student characteristics was used to formulate a typology of student personality. These types were then used as independent variables in descriptive and regression analyses for several college outcomes. Another important feature of the previous study that was repeated in the current research was the use of these student classifications of value orientations as "traits" that might predict satisfaction in college, or assigning subjects "types" based upon their dominant values. Similar to the "personality profiles" utilized in Holland's research on vocations, the types/traits design allows the researcher to investigate the subject from multiple research angles while utilizing the traits variables, without sacrificing the possibility of more focused research using the specific types.

Objectives

The purpose of this study is to investigate the effects of student value orientation about college (defined as student aspirations, attitudes, and values related to the college experience) on student satisfaction. The current study is an exploratory analysis of two kinds of effects of value orientation about college on overall satisfaction with college. Value orientation traits are used in the analyses in order to identify direct effects on overall student satisfaction with college. Trait variables are also employed to investigate the possibility that college activities could mediate the effects of value orientations on the outcome measure. In other words, the study considers the indirect effects of value orientation. Further analyses based on value orientation type search for interactions between value types and college experiences and the subsequent effect on overall satisfaction with college. Based on Holland's (1973) theory that behavior is the result of interactions between specific types of individuals and models of environments, this research

utilizes student values to define individual type and college activities and student involvement to help describe environmental models.

Methodology

Sample

The data utilized in this study were drawn from the 1994 Freshman Survey and the 1998 College Student Survey (CSS) collected by the Higher Education Research Institute (HERI) for the Cooperative Institutional Research Program (CIRP) at the University of California, Los Angeles. Additional follow-up data collection was made possible through a grant from the W.K. Kellogg Foundation. Only first time, full-time students in 1994 who completed both surveys were included in the sample, thereby creating a national, longitudinal database. Additionally, students at two-year colleges were removed from the sample in an effort to focus specifically on the values and satisfaction of students enrolled at four-year institutions. The final sample used for the current study consisted of 9,137 students (5,563 women and 3,574 men) who attended 121 institutions around the United States. Institutions of all types (i.e., 4-year nonsectarian, religious, college, university), control (i.e., public or private) and selectivity were represented in the sample.

Research Methods

In order to study the impact of student value orientations about college on satisfaction with the college experience, it was necessary to create a system of identifying and categorizing these student values about college. Seventy-eight items from the 1994 Freshman survey were selected to construct a typology of student value orientations about college including students': reasons for attending college (12 measures); goals and values (19 measures); expectations about college (21 measures); degree aspirations (6 measures); and career aspirations (20 measures). These measures represent a wide range of available personal characteristics that might lead to

certain attitudes and views about higher education and the role it plays in the lives of the students. Together they comprise a value set that may affect student choices while in college and influence their perceptions of the overall experience. A principal components factor analysis (selection level=.30) of these student characteristics yielded seven "types" of student value orientations about the college experience, which were labeled based on the measures included in the factors: Activist, Materialist, Academic, At-Risk, Artist, Utilitarian, and Undecided. The seven value orientations bear a striking resemblance to the seven student personality types identified by Astin (1993a) in a study using the CIRP data. There is also overlap with Holland's occupational types (1973) and Clark and Trow's student subcultures (1966), which validates the results of the current factor analysis. All of the factors are detailed in Table 1.

The value orientation factors were utilized in this study in two ways. Initially, these factors were used as continuous variables--each student would get a "score" on each value orientation based upon the composite of the measures included in the factor. In other words, all the students would be considered in each of the factors. For a more comprehensive analysis of the effects of value orientations about college, the value orientations were broken down into "types" in which students were included only if their score met a predetermined minimum. This minimum was set so that the composite of the measures within the factor would reflect a positive answer on yes/no variables (e.g., career aspirations) and answers that represented the highest two categories on the other measures (i.e., "very important" or "essential" on life goals and "very good chance" or "some chance" on expectation measures) for six of the seven types. Because so many students scored high enough to be classified as having a Utilitarian value orientation, a higher cut-off (students needed to score in the single highest category on all measures) was employed to narrow the sub-sample. This use of the value orientations as types made it possible to classify the students by their dominant values about college; however, the value orientations

were not mutually exclusive. As the percentages of student in each category of Table 1 illustrates, many students scored high enough on the various measures to be classified as more than one type. This fact is an important reminder that this typology is not meant to be limiting or judgmental. Additionally, the categories of student values about college are not hierarchical and are used descriptively in this research project.

Analyses utilizing these value orientation variables employed the "Input-Environment-Outcome" (I-E-O) framework developed by Alexander Astin (1991). This methodological framework controls for the biasing effects of incoming student characteristics in an effort to isolate the effects of various college environments and experiences on student outcomes. This research method was utilized in the current study to examine the effects of student value orientations about college after controlling for other important personal characteristics that might have had biasing effects on the variables of interest, the seven value orientations, and the outcome measure.

Seven forward, stepwise regression analyses were conducted for the dependent measure in which temporally (hierarchically) ordered blocks of variables were entered into the regression. Within each block, those variables significant at $p<.01$ entered the equation in a step-wise fashion. By utilizing step-wise regression, the influence of the entering variable on all other variables (those in and those not in the regression equation) may be traced by observing the changes in regression coefficients as variables are controlled at each step of the equation. This analysis is especially useful in the current study because it seeks to investigate the indirect effects of student value orientations about college as well as the direct effects. This is made possible by observing the changes in the regression coefficients for the value orientations as college activity variables enter the equation. The first regression analysis included all subjects in the sample and utilized the seven value orientations as independent variables and overall

satisfaction with college as the outcome, or dependent, measure. The remaining six regression analyses (an individual analysis could not be performed on the At-Risk student value orientations due to the small number of subjects classified as this type) were performed on subsets of the sample, selected based upon "type" of value orientation, to investigate the specific patterns of college behavior for each type of student and their effect on students' overall satisfaction with college.

Table 1. Results of Value Orientation Factor Analysis

Value Orientation	Measures Included in Factor		% of Sample
Activist	Goal: Participate in community action program	.76	14.4
	Goal: Promote racial understanding	.67	
Cronbach Alpha=.83	Goal: Be a community leader	.64	
	Goal: Influence political values	.64	
	Goal: Help others in difficulty	.62	
	Participate in volunteer work in college	.56	
	Goal: Keep up to date on political affairs	.54	
	Goal: Influence political structure	.53	
	Goal: Develop meaningful philosophy of life	.51	
	Goal: Be involved in environmental cleanup	.51	
Materialist	Goal: Be well-off financially	.70	32.7
	Goal: Have administrative responsibility	.61	
Cronbach Alpha=.72	Goal: Be successful in own business	.60	
	Goal: Obtain recognition from colleagues	.56	
	Goal: Become an authority ion my field	.50	
	Go to college in order to make more money	.49	
Academic	Expectation: Graduate with honors	.73	76.4
	Expectation: Elected to honor's society	.73	
Cronbach Alpha=.70	Expectation: Make at least a "B" average	.68	
	Expectation: Get bachelor's degree	.43	
At-Risk	Expectation: Drop out permanently	.67	.8
	Expectation: Drop out temporarily	.62	
Cronbach Alpha=.57	Expectation: Transfer to a different school	.54	
	Expectation: Marry while in school	.49	
	Expectation: Work full-time while in school	.49	
Artist	Goal: Write original works	.67	4.8
	Career aspiration: Artist	.65	
Cronbach Alpha=.62	Goal: Create artistic work	.65	
	Goal: Become accomplished in a performing art	.58	
Utilitarian	Go to college to improve reading and study skills	.60	55.2
	Go to college to gain a general education	.59	
Cronbach Alpha=.63	Go to college to become a more cultured person	.53	
	Go to college to learn more about things	.49	
	Go to college to get a better job	.47	
Undecided	Expectation: Change career choice	.82	21.1
	Expectation: Change major	.82	
Cronbach Alpha=.74	Career aspiration: Undecided	.61	

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Variables

Due to the exploratory nature of this research, a widely generalizable dependent variable was selected--overall satisfaction with college. Although student satisfaction is generally considered an affective measure in higher education research, it is positively related to cognitive factors, most notably, college GPA (Astin, 1993b). Additionally, overall satisfaction with college is strongly related to patterns of college involvement (including interaction with faculty and fellow students), and is directly related to student retention. For the current study, the dependent variable was measured as students reported level of "overall satisfaction with college" on a four-point scale scored: 4-very satisfied, 3-satisfied, 2-neutral, and 1-dissatisfied. Students who responded "can't rate" to this measure (.1% of the population) were treated as missing data--accordingly, the cases were deleted from the sample. The mean for the sample on the dependent measure was 3.192 (the standard deviation was .746) indicating that the average response regarding overall satisfaction in college for students in this sample was a little above "satisfied."

Three types of independent variables were included in this study: 1) those variables shown to be predictive of the dependent variable in previous research, 2) our variable of primary interest in this study, student value orientations about college (either as independent variables or to define a subset of the sample for further analyses), and 3) numerous college involvement measures to identify indirect as well as direct effects. For the regression utilizing the entire sample, which entered student value orientations as independent measures, these independent variables were organized into five temporally-ordered blocks: students' personal characteristics (18 variables), students' high school experiences and their expectations regarding the college experience (46 measures), student value orientations about college (7 orientations), environmental variables (14 characteristics), and students' college involvement and activities (53 measures).

Categorized within the I-E-O framework, blocks one and two represent input variables, or variables that measure pre-college student characteristics. *Student's personal characteristics* included all the inherent and background characteristics that may be associated with overall college satisfaction such as gender, race, religion, parents' education, and family income. The *high school experiences and expectations regarding college* block contained academic events and affective traits formulated during the high school years. This block also had all the expectations about college not already a part of the value orientation factors. Examples of variables in this block are average high school grades, standardized test scores, high school activities/involvement, and the estimated likelihood of various college experiences and outcomes (including the pretest for the dependent variable, the expectation to "be satisfied with college").

Block three, *student value orientations regarding college*, contains the variables of primary focus in this study. The variables in this block are similar to input variables because they are measured using goals, aspirations, and opinions formulated prior to college. However, these values often remain relevant during the college years and, therefore, influence the students' development much like an environmental variable. Because these variables may be interpreted as either input or environmental, they were entered after the last block of input variables and prior to the first block of environmental variables (Astin, 1991). All seven value-orientation factors were included in this block.

The next two blocks of independent variables comprise variables measuring the students' college environment. The fourth block controls for the influence of *institutional characteristics* such as selectivity, size, institutional type, and control on students' overall satisfaction with college. The final block of independent variables is the *students' college involvement and activities*. This block includes a variety of possible measures of academic, social, and general (not necessarily college-related) activities that took place between 1994 and 1998 in order to

explore all of the possible effects on the dependent variable as well as the interplay between student value orientations about college and the actual college experience.

For the remaining six regression analyses, each focusing only on students scoring high enough to be classified within a specific value type, the "value orientation" block was unnecessary, resulting in four blocks of independent variables. These blocks were identical in format and content to the personal characteristics, high school experiences/college expectations, institutional characteristics, and students' college involvement and activities blocks used in the first regression analysis.

Results

Correlations between each of the value orientations and the dependent variable reveal that four of the seven are positively related to overall satisfaction with college. Although the correlations were small, all were significant to the $p<.01$ level. The value orientation with the highest positive correlation with the outcome measure was Academic (.08) followed by Activist (.07), Utilitarian (.06) and Undecided (.03). Among those value orientations that had a negative correlation with overall satisfaction with college, the At-risk variable had the strongest relationship with the dependent variable (-.09) and those in the Materialist and Artist value orientations about college had the same simple r (-.04). The relatively weak relationship between value orientations and the dependent measure is congruent with previous research, which showed the environmental context predicts satisfaction to a greater extent than students' incoming traits (Astin, 1993b, Pascarella & Terenzini, 1991). In fact, satisfaction measures represent the only class of variables that show environmental effects that are as strong, or stronger, than the effects of input characteristics. This is not surprising since questions measuring satisfaction inquire about the experiences of students in college and, therefore, are not biased by input variables.

Table 2. Satisfaction with college (including all value-orientations as independent variables)

			Beta after...				
Step	*R*	*Simple r*	*Block 1*	*Block 2*	*Block 3*	*Block 4*	*Block 5*
Block 1: Student's personal characteristics							
1 Parental Income	08	** 08	** 06	** 05	** 04	** 04	*02*
2 Religion: None	11	**-07	**-06	*-03*	*-03*	*-04	*00*
3 Sex: Female	13	** 07	** 07	** 06	** 05	** 05	*02*
4 Race: White/Caucasian	14	** 08	** 06	** 06	** 06	** 05	** 04
5 Mother's education	15	** 07	** 05	* 04	*03*	*03*	*01*
6 Religion: Christian	16	** 05	* 04	*02*	*02*	*01*	*02*
7 Religion: Other	16	**-04	*-03	*-03*	*-03*	*-03	*-02*
Block 2: High school experiences/college expectations							
8 Expectation: Be satisfied with college	20	** 14	** 12	** 08	** 07	** 07	** 05
9 Self-rating: Emotional health	22	** 12	** 12	** 06	** 06	** 06	* 03
10 Average high school grades	24	** 11	** 10	** 07	** 06	** 07	*02*
11 Self-rating: Public speaking ability	25	** 10	** 10	** 05	** 05	** 05	*02*
12 Expectation: Participate in religious activities	25	** 12	** 09	** 04	* 04	* 04	*00*
13 HS activity: Felt depressed	26	**-09	**-09	**-06	**-05	**-05	*00*
14 Choice of this institution	26	** 08	** 07	** 05	** 05	** 04	** 04
15 Expectation: Be elected to student office	26	** 10	** 10	* 04	** 05	** 04	*00*
16 HS activity: Was bored in class	26	**-07	**-07	**-04	**-04	**-04	*01*
17 HS activity: Felt overwhelmed	27	*01*	*00*	* 04	* 04	* 04	*03*
18 HS activity: Was a guest in teacher's home	27	** 06	** 06	* 03	* 03	* 03	*01*
19 Expectation: Play varsity athletics	27	* 03	* 04	* 03	* 03	*02*	*00*
Block 3: Student value orientations about college							
20 At-risk value orientation	27	**-09	**-08	**-04	**-05	**-05	*-02*
21 Undecided value orientation	28	* 03	*02*	** 04	** 04	** 04	*03*
22 Materialist value orientation	29	*-04	*-02*	*-04	*-04	*-03	*-03*
Block 4: Institutional characteristics							
23 Plan to live at home Freshman year	29	**-10	**-08	**-07	**-07	**-07	*-03
24 Private University	29	*-04	*-04	**-06	**-07	**-07	*-02*
Block 5: College involvement and activities							
25 Faculty took personal interest in my progress	39	** 32	** 31	** 28	** 28	** 27	** 17
26 Felt bored in class	43	**-24	**-23	**-22	**-22	**-22	**-13
27 Felt depressed	45	**-19	**-19	**-17	**-17	**-17	**-11
28 Voted in student election	46	** 23	** 22	** 19	** 19	** 18	** 09
29 Faculty didn't take my comments seriously	48	**-18	**-18	**-18	**-18	**-17	**-13
30 Withdrew from school	49	**-20	**-19	**-16	**-16	**-16	**-09
31 Studied with other students	50	** 18	** 17	** 16	** 16	** 16	** 06
32 Discussed course with other students	51	** 19	** 18	** 16	** 16	** 15	** 07
33 Worked on a group project in class	51	** 14	** 14	** 13	** 14	** 13	** 06
34 Drank wine or liquor	51	** 05	** 04	** 05	** 05	** 05	** 06
35 Attended religious service	51	** 15	** 13	** 11	** 11	** 11	** 06
36 Performed volunteer work	52	** 16	** 15	** 12	** 12	** 11	** 04
37 Worked full-time while student	52	**-13	**-11	**-10	**-10	**-09	**-04
38 Joined a fraternity or sorority	52	** 07	** 05	** 05	** 05	** 05	* 03
39 Been lonely or homesick	52	**-08	**-09	**-08	**-08	**-09	*-03
40 Participated in intramural sports	52	** 10	** 12	** 10	** 10	** 09	* 03
41 Was a guest in a professor's home	52	** 18	** 18	** 15	** 15	** 14	* 03
Value Orientation Types not entering the equation							
Activist value orientation		** 07	** 08	*01*	*02*	*02*	*00*
Academic value orientation		** 08	** 08	*-02*	*-02*	*-02*	*-02*
Artist value orientation		*-04	*-03*	*-03*	*-03*	*-03*	*-01*
Utilitarian value orientation		** 06	** 05	*01*	*02*	*02*	*-01*

Notes: Decimals are omitted from all Beta coefficients. *p<.01, **p<.001. The coefficient for any variable not yet in the equation shows the beta that variable would receive if it were entered into the equation at the next step.

Table 2 provides a summary of the regression results, showing all the variables that predicted overall college satisfaction for all students in the sample. However, since many previous studies have addressed the impact of input characteristics on student satisfaction, the primary goal of this section is to examine the "main" direct and indirect effects of student value orientation about college on overall satisfaction. Therefore, the presentation of results will focus on the impact of the value orientation variables on satisfaction (direct effects), as well as the effects of the involvement measures and college experiences on the relationship between value orientation and the dependent variable (indirect effects).

Three of the seven student value orientations entered the regression equation. As would be expected by the simple correlations, the At-risk and Materialist value orientations entered the regression equation in a negative direction while the Undecided value orientation had a positive effect on overall satisfaction in college. This would indicate having these particular value orientations about the college experience would impact the students' overall satisfaction with college. However, once the effects of various college activities and experiences were controlled, the impact of student value orientation was diminished to the point of non-significance. In all three cases, variables that entered the regression at later step were such strong predictors of the dependent variable that the value orientation variables no longer held predictive power. Besides the pretest, the variables that primarily lead to non-significance for the Artist, Undecided, and Materialist value orientations are college involvement/activity variables. Among the four value orientations that did not enter the regression equation, all but one, Artist, were reduced to non-significance ($p<.01$) after controlling for high school activities and expectations about college. As soon as the other value orientations were controlled, possessing an Artist value orientation no longer had the statistical power to affect the dependent measure.

Even though two environmental variables, planning to live at home during the freshman year and attending a private university, proved to negatively impact students' overall satisfaction with college, the variables with the largest impact on the dependent variable in this study were the college involvement and activities variables. A complete set of 53 academic, general college, and personal (not necessarily college related) experiences were included in the regression to explore the potential of indirect effects of value orientations on satisfaction with the overall college experience. Seventeen of these variables entered the regression equation for this study and together accounted for the largest amount of variation in the dependent variable (R-square change for this block of variables = 12%). Of these 17 involvement variables, three represented co-curricular college activities (e.g., "joined sorority or fraternity" and ""worked full-time while in school"), five were general activities (e.g., "felt depressed" and "attended a religious service"), but the overwhelming majority, nine, were academic activities (e.g., "faculty took a personal interest in my progress" and "studied with other students"). These findings are also congruent with previous research that satisfaction with the college experience is far more dependent upon college environment than entering characteristics (Astin, 1993b; Pascarella & Terenzini, 1991) and theories regarding the positive effects of involvement (Astin, 1984) and student quality of effort (Pace, 1979) while in college.

It is critical to examine the interplay between the involvement variables and the value orientation variables. By identifying the involvement variables that share enough variance with the value orientation measures to diminish their effects to non-significant levels, it is possible to trace indirect effects. Although the three value orientation variables that proved to be significant predictors of overall satisfaction with college were diminished to non-significance once college involvement and activities were taken into account, no single variable mediated the effects of the value orientation variables. Controlling for a number of input, environment, and involvement

variables diminished the influence of these variables. Stated differently, the results of this analysis did not support the notion that value orientations have an indirect effect on overall satisfaction with college. They proved to have a direct effect, but their influence on overall satisfaction was due to the influence of other variables that were included in the regression equation.

Although evidence for indirect effects was not found, some of the findings from this analysis, particularly with regard to the value orientations and college activities, suggest directions for future research. For example, the beta for both the At-risk and Materialist values on the dependent measure decreased once the academic variable "faculty took a personal interest in my progress" entered the regression; controlling for this experience diminished the negative effects of these two value orientations. This indicates that the negative impact of these two value orientation on overall satisfaction may be partially a result of faculty not taking a personal interest in their progress or the perception that this is the case. This indifference on the part of the faculty, whether perceived or actual, may be due to incongruent values between students with a Materialist orientation, and the values of the professoriate (e.g., academic inquiry and liberal education). The lack of focus among students in the At-risk value orientation may make them potentially less likely to be the target of faculty attentions. A second set of findings from the analysis showed that as the effects of other college activity variables were accounted for in the regression equation (e.g., "voted in a student election" and "faculty didn't take my comments seriously), the negative influence of the At-risk value orientation was further diminished. This implies that involvement in college, particularly in academic activities, counteracts the negative effects of the At-risk value orientation on overall satisfaction with college. Last, the results indicate that having an Undecided value orientation does not necessarily denote a student who is lost, unmotivated or dispassionate. Not only is this value orientation positively related to overall

satisfaction with college, it remains robust as numerous college activities and experiences are controlled (it only loses significance at the very last step of the regression equation). Perhaps this research implies that there may be different types of Undecided students—some students might not select one specific direction, but they might be greatly invested and actively pursuing several pathways through the college experience.

In an effort to investigate interactions between student value orientations and involvement variables that predict satisfaction with college, separate analyses were conducted on six of the seven value orientation types (again, individual analyses could not be performed on the At-Risk student value orientation due to the small number of subjects classified as this type). Interactions occur "when a given educational experience or treatment has a different effect on one group of students than on another group" (Astin, 1993a, p. 36). In the current study, interaction effects can be identified when college involvement and activity variables enter the regression equation for one type of value orientation with a much larger or smaller effect than the other types, or in a different direction than the other types.

After controlling for the same set of input and environmental characteristics as the large regression, it is possible to compare the college activities and involvement measures that predicted overall satisfaction for the students entering college with each type of value orientation (summarized in Table 3). The most striking finding from these analyses is that there is little evidence of interaction effects. Among the involvement measures that proved a significant predictor of overall satisfaction with college for at least one of the value orientation types, there were no sign reversals. Even when the "beta-in" (the beta that variable would receive if it were not entered into the equation at the next step) for the involvement/activity variables that were not significant in the analyses were included, all of the coefficients share the same sign for each involvement variable. Additionally, for majority of the measures in the college

activity/involvement block (12 of 19), the beta coefficients are within a tight range. Differences between the highest and lowest beta coefficients for these eleven variables range from .02 to .08. The replication of findings for most involvement measures across groups of highly diverse students indicates that many of the activities students participate in during college have uniform effects on student populations regardless of value orientation.

Table 3. Predictors of Student Satisfaction with College for each Value Orientation

	Final beta for college activity/involvement variables for:					
College activity/involvement variables	***Activist***	***Materialist***	***Academic***	***Artist***	***Utilitarian***	***Undecided***
Discussed course with other students	*03*	** 08	** 07	*11*	** 06	*04*
Worked on group project in class	*04*	* 05	** 05	*01*	* 04	*05*
Was a guest in a professor's home	*03*	*04*	* 04	*03*	* 05	*02*
Participated in intramural sports	*02*	*02*	* 04	*05*	* 05	*03*
Felt bored in class	**-18	**-15	**-14	**-26	**-13	**-09
Studied with other students	* 07	** 06	** 06	** 17	** 06	** 09
Voted in student election	** 09	** 11	** 09	*10*	** 09	** 09
Faculty didn't take comments seriously	**-18	**-13	**-13	*-07*	**-14	**-10
Faculty took personal interest in my progress	** 18	** 16	** 18	** 21	** 19	** 18
Joined a fraternity or sorority	*01*	* 05	* 03	*04*	*02*	*04*
Worked FT while a student	*-05*	*-04*	**-04	*-03*	**-05	*-02*
Withdrew from school	*-08	**-10	**-08	*-09*	**-09	**-16
In leadership training	*00*	*03*	*02*	*07*	*01*	* 07
Been lonely or homesick	*-02*	*-05	**-04	*-07*	*-02*	*-03*
Felt depressed	**-11	**-09	**-08	*-12	**-12	**-14
Attended religious service	* 07	** 07	** 06	*04*	** 06	** 12
Drank beer	** 10	** 07	*01*	*09*	*02*	** 08
Drank wine or liquor	*01*	*04*	** 06	*09*	** 07	*03*
Performed volunteer work	** 12	*04*	** 05	*07*	** 05	*02*
	N=1202	N=2739	N=6426	N=405	N=4621	N=1775

Note: Decimals are omitted from all Beta coefficients. *p<.01, **p<.001. The coefficient for any variable not in the equation shows the beta that variable would receive if it were not entered into the equation at the next step. Coefficients within the boxes identify interaction effects.

Central to the objectives of this study are those variables that have unique effects on students in particular value-orientation types. For example, although the results of the six analyses indicate that feeling bored in class negatively predicts satisfaction in college for all of the value orientation types, this experience has a much stronger effect on students who enter college with an Artist value orientation. It is not surprising that feeling bored in class would negatively impact overall satisfaction with college. However, it is interesting that this

experience affected those students in the Artist value orientation type much more than students in the other types of value orientations. Perhaps this can be explained by the high degree of specialized skills and interests among students in this value orientation type. It is possible that students who view college as a means to further their goals in the fine and performing arts may find any distraction from these specialized pursuits, including other curricular requirements, especially frustrating. Regardless of the explanation, this finding proved to be the strongest indicator of an interaction effect between all of the value orientation types and college involvement/activities. The beta coefficient for students in the Artist type was between .08 and .17 larger than the coefficients of all other value types for the variable "felt bored in class".

The Artist value orientation showed evidence for the greatest number of interactions between value orientation type and college involvement/activities. In addition to feeling bored in class, the results of that regression analysis indicate a likely interaction with two other college experiences, "studying with other students" and "faculty didn't take my comments seriously". Studying with other students in college positively predicted satisfaction for all of the value orientation types. However, among students with Artist values about college, the effect was stronger. Perhaps this can be explained by the collaborative nature of artistic endeavors. Dancers often work in ensembles, singers as members of a chorus, writers join writing groups, and actors work as part of a cast. It may be the case that collaboration is embedded in the ethos of the curriculum and practice of fine and performing arts. Therefore, working and studying with other students could be viewed as critical to the college experience of students in this value type and more important to their satisfaction.

The perception that faculty did not take the student's comments seriously proved to be a significant, negative predictor of overall satisfaction with college for all value types except Artist. When the "beta in" for this variable is examined in the regression for students with Artist-

type values, its magnitude is less than the coefficient for this variable among the other value orientation types. Since the other value orientation types are not only significant but reveal strong effects--all the coefficients are over .10--this points to an interaction. It is possible that success in the arts is measured by feedback external to the college environment, such as directors, editors, and critics, as opposed to academic success and positive feedback from the faculty. Therefore, although they are not indifferent to the experience of faculty not taking their comments seriously, the satisfaction of Artist-type students are less affected by this experience than students in the other value orientation types.

The results of the analysis for students typed as Undecided in their value orientations also provide strong evidence for interactions between this type and two activity/involvement variables, "withdrew from school" and "attended a religious service." The negative impact of withdrawing from school on the overall satisfaction seems self-explanatory; however this experience appeared to have a stronger negative impact on overall satisfaction for students in the Undecided value type than the other value orientations. Perhaps students who are undecided about their academic and career goals are searching for direction while in college. Withdrawing from college may be a response to the students' perception that the college was unable to fulfill these needs, which might lead to higher levels of dissatisfaction with the overall college experience. However, we must keep in mind that relationships between the variables "withdrawing from school" and "overall satisfaction with college" raise questions regarding the direction of effect. It is also likely that dissatisfaction is at least one of the many conditions that lead to the decision to withdraw from school.

The other indication of an interaction may also be the result of some Undecided type students' search for meaning and direction during the college years. The experience of attending a religious service had a significant positive influence for five of the six value orientations and

the "beta-in" for the non-significant coefficient resembled most of the others in strength and magnitude. However, this experience proved especially meaningful to Undecided type students—the beta coefficient for this variable was at least .05 greater than for students in the other value types. For many individuals who lack direction, religion offers a means for self-discovery and a safe community. It may be the case that Undecided students have more needs than other student value-types that the strength, safety, and comfort of religious participation may address. In turn, this experience may lead to greater feelings of overall satisfaction with college.

Activist students have similar responses to students in the other value types to most college activities and experiences. However, although the coefficients are positive for all six value-types, performing volunteer work seems to have a uniquely positive influence on the satisfaction of student in the Activist value type. The coefficient for this activity variable in the Activist regression is not only significant (this variable did not prove significant for half of the value-types), but it was at least .05 greater than the beta coefficients and "beta in" for the other six value orientations. Many of the variables included in this value orientation factor espouse public service and political awareness, which overlap heavily with the purposes of many volunteer organizations. Therefore, it is not surprising that participating in volunteer work leads to greater satisfaction for students with an Activist value orientation about college, but it is an important example of an interaction between individual and choices in college.

Students in the Academic and Utilitarian value orientations show evidence of an interaction with regard to only one college activity, drank beer. This variable did not prove to be a significant predictor for either of these value types. However, upon examining the beta coefficient this college activity variable would have received in both analyses had it been significant, it appears that drinking beer has a less positive effect on overall satisfaction for

students in the Academic and Utilitarian value types. Students in these two value orientations have very specific goals (e.g., "graduate with honors") and motivations (e.g., go to college to become a more cultured person") for their college experience. They may view drinking beer as a distraction from these pursuits.

Discussion

The results of this study indicate that student value orientations about college do influence overall student satisfaction, although the effects on the dependent measure were reduced to non-significant levels as environmental and college activity variables were included in the regression equation. Specifically, having At-risk or Materialist values tends to lead to lower levels of satisfaction with college as contrasted with an Undecided value orientation, which is associated with a higher level of overall satisfaction with college. The impact of an At-risk value orientation is perhaps to be expected given that such students are likely to encounter more difficulty with the demands of college, thereby leading to lower levels of satisfaction. The negative influence of the Materialist value orientation may be explained by the fact that, traditionally, college faculty tend to be less materialistic than people in general and, therefore, these students to not receive support for their value structure. This dissonance may then lead to dissatisfaction with the college experience. Possessing an Undecided value orientation appears to lead students toward greater involvement in the college experience and more contact with faculty--perhaps in an effort to explore the various options of the college environment before making decisions about their own direction and goals. Previous research has shown that both involvement and interaction with faculty lead to greater satisfaction among students (Astin, 1993b). The Activist, Academic, Artist, and Utilitarian value orientations did not prove to have a significant impact on the overall satisfaction of students in college.

This study also investigated the possibility of indirect effects for the value orientations, and did not find any evidence to support these types of effect on overall student satisfaction. Although several involvement measures and college activity variables accounted for the influence of the value orientations variables on the outcome variable, no one college experience could be identified as mediating their impact on students' level of satisfaction.

Individual analyses on each value type were performed in order to study possible interactions between the value orientation types and choices and behaviors in college. These analyses revealed relatively few interactions demonstrating that most academic, social and general college activities have the same effect on students regardless of their value orientation. The replication of results is especially striking in light of the highly diverse nature of these sub-samples. However, this should not detract from the importance of the few interaction effects that resulted from these analyses. In a few instances, evidence of interactions between type of value orientation toward college and specific college experiences were detected indicating that not all college activities affect students with different value orientations in the same manner. Indeed, a few types of college involvement predicted greater or lesser levels of satisfaction for students in certain value orientation types.

The results of these analyses showed that students with Artist values about college had uniquely stronger effects from feeling bored in class (negative), studying with other students (positive), and faculty not taking their comments seriously (negative). Among Undecided-type students, withdrawing from school had a stronger negative effect and attending religious services had stronger positive effects on overall satisfaction than for the other value orientation types. It also appears that the Activist value type interacts with performing volunteer work in college to have a stronger positive effect on overall satisfaction in college than the other value types. Finally, students with an Academic or Utilitarian value orientation experience a less positive

effect on overall college satisfaction from drinking beer than other value types. Though few in number, these interaction effects lend further support to the idea posited by several person-environment interaction theorists that behavior (in this case, student satisfaction) is influenced by the interaction between personal traits (e.g., student value orientations about college) and environmental forces (e.g., choices and involvement while in college).

The outcomes of this study have some practical implications for student-affairs programming, academic and personal counseling of college students. Understanding the collective needs of students is only half of the challenge to both researchers and practitioners. It is also critical to understand how the individual needs of students will interact with the environment and with the students' own choices in college to affect the outcomes of the experience. For example, counselors and advising staff may better facilitate the adjustment process for new students by encouraging them to participate in activities that will fulfill their specific needs, interests and expectations about college as expressed by their stated values regarding the college experience. Practitioners can expect and incorporate person-environment interactions when they develop academic and extracurricular programs targeted toward student populations with certain values regarding college, or use it to identify students who may be uniformly marginalized by the current college environment. Student affairs programming can be reviewed to ensure that activities that benefit students in each value orientation type. Last, and perhaps most important, understanding the interaction between the person and the environment can help lead to a system of admissions that supports a better fit between the person and the environment, thereby leading to more realistic expectations of the college experience and more favorable outcomes.

In addition to the importance of those involvement measures and college activities that affect students from different value orientations distinctly, it is critical to note that the majority of

the college experiences had important effects on all, or most, of the college value orientation types. During this era of shrinking budgets and greater demands, it is meaningful to know which activities are having an impact on students regardless of their values about college. It is also crucial to note that two of the college experiences having the greatest effects on most students were the result of interpersonal contact with faculty. Additionally, several other college activities entering the analyses were academic in nature. In many college environments, student satisfaction, development and quality of life are often delegated strictly to student affairs professionals. This study indicates that activities in the classroom bear just as much weight in student satisfaction as affairs outside the academic realm, supporting a partnership between faculty and student-affairs administrators in student development efforts.

More important than the practical implications of this research, the exploratory nature of the current study suggests future research directions in student development. The broad approach to evaluating the effects of value orientation--investigating direct, indirect and interaction effects--in this study sets the stage for follow-up studies in which hypotheses regarding specific effects of value orientations may be examined in greater depth. Future studies could investigate the effects of student value orientations on a more narrow, sophisticated set of college involvement measures. Fore example, college G.P.A. and having a mentor could be looked at as potential mediating or interaction variables. Additionally, future research should investigate the effects of student values on additional outcomes of college. Satisfaction with curriculum, acceptance of different races and cultures, and changes in self-image are just a few of the other important outcomes that may yield person-environment interaction effects or prove to be directly or indirectly influenced by student value orientations regarding college.

The scope of the current research is somewhat limited by the nature of the variable of interest--student values. Previous researchers have shown that student values are rather elusive

in measurement and meaning. First, this study is limited by the fact that we are only able to measure the stated values of the student. Although a seemingly exhaustive list of variables reflecting personal characteristics was used in the creation of the value typology, it is possible that certain attitudes or opinions about college are not reflected in the current classification structure. The body of research on student values would benefit greatly from an in-depth qualitative study in which students were able to express their personal attitudes in their own words and to clarify the meaning behind their espoused values regarding college. Second, the current study assumes that student values about college are embedded in their identity and resistant to change over the college years. The next step in the research in this area is to determine whether student value orientations remain constant over the college years. Lastly, it would be important to analyze the impetus and effects of changing one's values about college during the experience itself on student satisfaction.

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